

18. The apparatus of claim 17 wherein the valve means comprises a valve having a valve input connected to a vaporizer output and a first valve output connected to a processing system input and a second valve output connected to a bypass line.

19. The apparatus of claim 18, further comprising:

a second valve means connected between a carrier gas source, a divert gas source and the vaporizer, the second valve means having a first valve input connected to the carrier gas source, a second valve input connected to the divert gas source, and a valve output connected to a vaporizer input.

20. The apparatus of claim 19 wherein the controller means is connected to switch the second valve means between the first valve input and the second valve input.

21. The apparatus of claim 20, wherein the controller means is connected to correspondingly switch the valve means and the second valve means.

REMARKS

This is intended as a full and complete response to the Final Office Action dated April 14, 2003, having a shortened statutory period for response set to expire on July 14, 2003. Please reconsider the claims pending in the application for reasons discussed below.

Claims 1-21 are pending in the application. Claims 12-16 are withdrawn from consideration. Claims 1-11 and 17-21 stand rejected.

Restriction to one of the following inventions is required under 35 U.S.C. § 121:

I. Claims 1-11 and 17-21, drawn to an apparatus classified in class 118, subclass 715.

II. Claims 12-16, drawn to a method of forming a film, classified in class 427, subclass 243.1.

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The Examiner states that the apparatus as claimed can be used to practice another and materially different process such as etching. Applicants elect Group I, claims 1-11 and 17-21 with traverse. Applicants submit that an etching process is not excluded by the method of claim 12. Thus, Applicants submit that the Examiner has not shown that the apparatus as claimed can be used to practice another and materially different process than the process of claim 12. Applicants respectfully request withdrawal of the restriction requirement.

Claims 1-11 and 17-21 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over *Gauthier* (U.S. Patent No. 6,007,330) in view of *King* (U.S. Patent No. 4,263,091).

Gauthier describes an apparatus that delivers gases from a vaporizer to a processing system. The apparatus includes a valve 174 between vaporizer 122 and processing system 130. *Gauthier* describes flow of a liquid precursor from the vaporizer into valve 174 or flow of a gas or fluid from input 176 into valve 174. *Gauthier* describes flow out of valve 174 into injectors within the processing system 130 (column 6, lines 1-5). Thus, *Gauthier* describes valve 174 as having two inputs and one output.

The Examiner asserts that the intended use of the Applicants' claimed valve output connected to a bypass line cannot be used to distinguish the claimed apparatus from the apparatus of *Gauthier*. The Examiner also suggests that 176 may function as an output by noting that a "recycle" line between "output" 176 and vaporizer 122 is established when valves 160, 152, and 142 are closed.

Applicants agree that the intended use of an apparatus alone cannot be used to distinguish the apparatus. However, Applicants submit that *Gauthier* does not teach, show, or suggest the possibility that input 176 could be an output connected to vaporizer 122 and the Examiner does not identify any motivation for having an output 176 connected to vaporizer 122. *Gauthier* describes introducing carrier gases (156), dopants (146), or other liquids directly into the vaporizer 122 via port 134 and directly into chamber 130 via input 176 (column 5, line 41 to column 6, line 5). If valves 160, 152, and 142 were closed, as asserted by the Examiner, gases would not flow out of 176 back to the vaporizer 122, as the valve 174 is necessarily at a lower pressure than

the vaporizer 122. Thus, input 176 of *Gauthier* is incapable of being used as an output regardless of intent.

The Examiner agrees with Applicants that *Gauthier* does not describe a valve means for selectively delivering gas to a processing system input and to a bypass line, as recited in claim 17. The Examiner cites *King* to provide three-way electrically controlled valve means with a controller that controls each conduit flow for each valve and states that one would be motivated to replace the three-way valves of *Gauthier* with *King's* controlled three way valves to optimize and control *Gauthier's* processing.

Applicants submit that *King* provides a logic device 59 that generates signals to fully open or fully close the three-way valves 31-34 (column 3, lines 48-64). Like *Gauthier*, *King* only describes three-way valves having two inputs and one output. Figure 1 of *King* shows an input from the feed stream, an input from the purge gas, and an output to the powder form evaporator for each three-way valve. There is no teaching or suggestion in *King* of an apparatus having a valve with two valve outputs, as recited in the instant claims. There is no suggestion in *King* that logic device 59 is a controller that is configured to switch a valve between a first valve output and a second valve output. Even if *Gauthier* is viewed as having a valve capable of having a valve input and two valve outputs, neither *Gauthier* nor *King* provides a controller for switching such a valve between the first valve output and the second valve output. Thus, *Gauthier* and *King*, alone, or in combination, do not describe or suggest an apparatus including a valve having a first valve output and a second valve output and a controller configured to switch the valve between a first valve output and a second valve output.

Gauthier and *King*, alone, or in combination, do not teach, show, or suggest an apparatus for delivering processing gas from a vaporizer to a processing system, comprising a valve connected between the vaporizer and the processing system, the valve having a valve input connected to a vaporizer output and a first valve output connected to a processing system input and a second valve output connected to a bypass line, and a controller for switching the valve between the first valve output and the second valve output, as recited in claim 1. Applicants respectfully request withdrawal of the rejection of claim 1, and of claims 2-4, which depend thereon.

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Gauthier and King, alone, or in combination, do not teach, show, or suggest an apparatus for processing a substrate, comprising a chamber having a gas input, a vaporizer, a valve connected between the vaporizer and the chamber, the valve having a valve input connected to a vaporizer output and a first valve output connected to the gas input and a second valve output connected to a bypass line, and a controller for switching the valve between the first valve output and the second valve output, as recited in claim 5. Applicants respectfully request withdrawal of the rejection of claim 5, and of claims 6-11, which depend thereon.

Gauthier and King, alone, or in combination, do not teach, show, or suggest an apparatus for delivering processing gas from a vaporizer to a processing system, comprising a valve means for selectively delivering gas to a processing system input and to a bypass line, the valve means connected between the vaporizer and the processing system, and a controller means for switching the valve means between the processing system input and to a bypass line, as recited in claim 17. Applicants respectfully request withdrawal of the rejection of claim 17, and of claims 18-21, which depend thereon.

In conclusion, the references cited by the Examiner, neither alone nor in combination, teach, show, or suggest the method or apparatus of the present invention. Having addressed all issues set out in the office action, Applicants respectfully submit that the claims are in condition for allowance and respectfully request that the claims be allowed.

Respectfully submitted,



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